

SECTION 31 23 23  
Geofoam Lightweight Fill

PART 1 GENERAL

1.1 SUMMARY

- A. Sections Includes: Provide Geofoam.

1.2 REFERENCES

- A. ASTM D6817 - Standard Specification for Rigid, Cellular Polystyrene Geofoam.
- B. ASTM D7557 – Standard Guide for Sampling of Expanded Polystyrene Geofoam Specimens.
- C. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- D. ISO 17025 - General requirements for the competence of testing and calibration laboratories.
- E. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

- A. Third Party Documents. Manufacturer literature/technical data not acceptable for submittal:
1. Third party inspection agency certificate demonstrating physical properties in compliance with ASTM D6817 Type specified.
  2. Third party inspection agency certificate with flame spread and smoke developed indexes.
  3. UL evaluation report covering ASTM D6817 Type specified.

\*\*\*Note to Specifier\*\*\* The following item is option. Coordinate with Section 2.1.

4. UL evaluation report covering termite resistance in accordance with ICC-ES AC 239, Acceptance Criteria for Termite-Resistant Foam Plastics.

- B. 10-year compressive resistance warranty.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain geofoam through one source from a single manufacturer.
- B. Initial Test Compliance: Testing from an ISO17025 Accredited Laboratory showing compliance with compressive resistance @ 1% deformation and flexural strength requirements of ASTM D6817 for Type specified prior to first shipment.

2. Ongoing Test Compliance: Testing from an ISO17025 Accredited Laboratory showing compliance with compressive resistance @ 1% deformation of ASTM D6817 for Type specified. Testing frequency shall be in compliance with ASTM D7557.

#### 1.5 DELIVERY, STORAGE & HANDLING

- A. Deliver geof foam labeled with ASTM D6817 Type.
- B. Store protected from moisture and sunlight prior to installation.
- C. Product should not be exposed to open flame or other ignition sources.
- D. Product should not be exposed to organic solvents, petroleum products and their vapors. Examples include but are not limited to acetone, paint thinner, and gasoline.
- E. Provide temporary ballast or other restraint prior to and during installation.

#### 1.6 WARRANTY

- A. Provide 10-year physical property warranty.

### PART 2 PRODUCTS

#### 2.1 Rigid Cellular Polystyrene Geof foam

\*\*\*Note to Specifier\*\*\* Select one or more of the following Type paragraphs and delete those not required.

- A. Rigid Cellular Polystyrene Geof foam: ASTM D6817 Type, compressive resistance indicated below and with flame spread index less than 25 and smoke developed index less than 450 per ASTM E84/UL723.
  1. Branch River EPS12 Geof foam
    - a. Minimum compressive resistance @ 1% deformation of 2.2 psi
    - b. Minimum flexural strength of 10.0 psi
    - c. Minimum density of 0.70 lbs per cubic foot
  2. Branch River EPS15 Geof foam
    - a. Minimum compressive resistance @ 1% deformation of 3.6 psi
    - b. Minimum flexural strength of 25.0 psi
    - c. Minimum density of 0.90 lbs per cubic foot
  3. Branch River EPS19 Geof foam
    - a. Minimum compressive resistance @ 1% deformation of 5.8 psi
    - b. Minimum flexural strength of 30.0 psi
    - c. Minimum density of 1.15 lbs per cubic foot
  4. Branch River EPS22 Geof foam

- a. Minimum compressive resistance @ 1% deformation of 7.3 psi
  - b. Minimum flexural strength of 40.0 psi
  - c. Minimum density of 1.35 lbs per cubic foot
5. Branch River EPS29 Geofoam
- a. Minimum compressive resistance @ 1% deformation of 10.9 psi
  - b. Minimum flexural strength of 50.0 psi
  - c. Minimum density of 1.80 lbs per cubic foot
6. Branch River EPS39 Geofoam
- a. Minimum compressive resistance @ 1% deformation of 15.0 psi
  - b. Minimum flexural strength of 60.0 psi
  - c. Minimum density of 2.40 lbs per cubic foot
7. Branch River EPS46 Geofoam
- a. Minimum compressive resistance @ 1% deformation of 18.6 psi
  - b. Minimum flexural strength of 75.0 psi
  - c. Minimum density of 2.85 lbs per cubic foot

\*\*\*Note to Specifier\*\*\* Select the geofoam block size. Consult with local manufacturer on block sizes available.

8. Size
- a. 4 foot by 8 foot by [specify]
  - b. Custom sizes as indicated on drawings

\*\*\*Note to Specifier\*\*\* Optional, include this section for termite resistant geofoam. Coordinate with Section 1.3.

9. Termite Resistance
- a. Borate treatment
  - b. Compliance with ICC-ES AC239, Acceptance Criteria for Termite-Resistant Foam Plastics

## 2.3 ACCESSORIES

\*\*\*Note to Specifier\*\*\* It is the responsibility of the designer/engineer to determine the suitability and number of GeoGripper Plates. Two plates for each 4 foot x 8 foot section of geofoam block is a minimum recommendation to minimize block to block movement during installation.

### A. GEOGRIPPER PLATES

1. GeoGripper plates shall be used to restrain Geofoam from moving laterally in layer over layer applications.

2. The plate shall be made of galvanized steel with two-sided multi-barbed design capable of piercing geof foam. Each plate shall be capable of a lateral holding strength of 60 lbs.
3. Install a minimum of [specify] GeoGripper plates for each 4 foot x 8 foot section of geof foam.

### 2.3 MANUFACTURER

\*\*\*Note to Specifier\*\*\* Select the name and address of the local manufacturers.

- A. Branch River Plastics, Inc., 15 Thurber Boulevard, Smithfield, RI 02917

### PART 3 EXECUTION

#### 3.1 INSTALLATION

- A. Installation: [ Specify instructions to suit project requirements or applications].

END OF SECTION